

**What is Claimed is:**

1. A call control method for handoff guarantee in a mobile terminal, the method comprising the following steps of:

5       judging whether the requested maximum bandwidth is allocable within the available bandwidth of the current cell when a received new call requests the maximum and minimum bandwidths;

10       if the requested maximum bandwidth is allocable within the available bandwidth of the current cell, requesting handoff from an adjacent cell into the current cell and inspecting a handoff queue to judge whether a standby call exists in the handoff queue;

      if the standby call does not exist in the handoff queue, approving the new call; and

15       requesting a bandwidth reservation from the adjacent cell after allocating the minimum one of the requested maximum bandwidth and the available bandwidth of the cell to an application which currently requests call set-up about the approved call.

20       2. A call control method for handoff guarantee in a mobile terminal according to claim 1, further comprising the step of blocking the new call if the requested maximum bandwidth is not allocable within the available bandwidth of the current cell or the standby call exists in the handoff queue.

      3. A call control method for handoff guarantee in a mobile terminal according to claim 1, wherein the call has a guaranteed traffic type.

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4. A call control method for handoff guarantee in a mobile terminal according to claim 1, further comprising the step of periodically monitoring new call block rate and handoff failure rate by measuring the same to adjust the amount of the bandwidth according to a result of monitoring.

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5. A call control method for handoff guarantee in a mobile terminal according to claim 4, wherein the step of adjusting the amount of the bandwidth comprises: adjusting the bandwidth reserved for handoff by judging whether the measurement of the new call block rate exceeds the threshold block value of new call as the reference of communication service quality in the current cell and whether the measurement of the handoff failure rate exceeds a pre-set threshold failure value.

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6. A call control method for handoff guarantee in a mobile terminal according to claim 5, wherein the step of adjusting the amount of the bandwidth comprises: reducing the amount of the reserved bandwidth by judging that the bandwidth is excessively reserved for handoff if the measurement of the new call block rate exceeds the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff failure rate does not exceed the pre-set threshold failure value.

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7. A call control method for handoff guarantee in a mobile terminal according to claim 5, wherein the step of adjusting the amount of the bandwidth comprises: increasing the reserved bandwidth by judging that the bandwidth is insufficiently reserved for handoff if the measurement of the new call block rate does not exceed the threshold block value of new call which is the reference of the communication service

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quality of the current cell and the measurement of the handoff failure rate exceeds the pre-set threshold failure value.

8. A call control method for handoff guarantee in a mobile terminal according to claim 5, wherein the reserved bandwidth for handoff is not adjusted by judging that the service quality is satisfied if the measurement of the new call block rate does not exceed the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff failure rate does not exceed the pre-set threshold failure value.

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9. A call control method for handoff guarantee in a mobile terminal according to claim 5, further comprising the step of subdividing the cell by judging that users are concentrated in the current cell exceeding the limit of cell capacity if the measurement of the new call block rate is maintained at least the threshold block value of new call which is the reference of communication service quality of the current cell and the measurement of the handoff failure rate is maintained at least the pre-set threshold failure value for a predetermined time.

10. A call control method for handoff guarantee in a mobile terminal, the method comprising the following steps of:

(a) judging whether the requested minimum bandwidth of handoff is allocable within the currently reserved bandwidth to allocate the requested minimum bandwidth if allocable, when a received handoff call requests the maximum and minimum bandwidths used in a previous call from a base station of a destination cell of the mobile terminal;

(b) if not allocable, judging whether the available bandwidth exists in the unreserved bandwidth of the current cell to approve the corresponding call if available and regulate the corresponding call to stand by in a handoff queue if unavailable;

judging whether the standby time of the handoff call in the handoff queue  
5 exceeds the maximum allowable handoff expiration time to approve the handoff call if not exceeds and block the handoff call if exceeds;

allocating the minimum one of the requested maximum bandwidth and the added value of the reserved bandwidth and the available bandwidth in the unreserved bandwidth of the cell; and

10 requesting a bandwidth reservation from an adjacent cell and requesting a previous base station of the handoff call to cancel the bandwidth reserved to a previously adjacent cell.

11. A call control method for handoff guarantee in a mobile terminal  
15 according to claim 10, wherein the step of blocking the handoff call comprises: processing the standby handoff call according to a First-In First-Out scheme.

12. A call control method for handoff guarantee in a mobile terminal  
according to claim 10, wherein the step of blocking the handoff call comprises: if the  
20 standby time does not exceed the maximum allowable handoff expiration time, approving the handoff call after allocating the requested minimum bandwidth of handoff within the currently reserved bandwidth.

13. A call control method for handoff guarantee in a mobile terminal  
25 according to claim 10, wherein the call has a guaranteed traffic type.



not exceed the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff failure rate exceeds the pre-set threshold failure value.

5           18. A call control method for handoff guarantee in a mobile terminal according to claim 15, wherein the reserved bandwidth for handoff is not adjusted by judging that the service quality is satisfied if the measurement of the new call block rate does not exceed the threshold block value of new call which is the reference of the communication service quality of the current cell and the measurement of the handoff  
10 failure rate does not exceed the pre-set threshold failure value.

15           19. A call control method for handoff guarantee in a mobile terminal according to claim 15, further comprising the step of subdividing the cell by judging that users are concentrated in the current cell exceeding the limit of cell capacity if the measurement of the new call block rate is maintained at least the threshold block value of new call which is the reference of communication service quality of the current cell and the measurement of the handoff failure rate is maintained at least the pre-set threshold failure value for a predetermined time.

20           20. A record medium readable by a digital processing device recording a tangibly embodied program of instructions executable by the digital processing device to perform a call control method for handoff guarantee in a mobile terminal, wherein the program is executed in the following steps of:

25           judging whether the requested maximum bandwidth is allocable within the available bandwidth of the current cell when a received new call requests the maximum

and minimum bandwidths;

if the requested maximum bandwidth is allocable within the available bandwidth of the current cell, requesting handoff from an adjacent cell into the current cell and inspecting a handoff queue to judge whether a standby call exists in the handoff queue;

if the standby call does not exist in the handoff queue, approving the new call; and

requesting a bandwidth reservation from the adjacent cell after allocating the minimum one of the requested maximum bandwidth and the available bandwidth of the cell to an application which currently requests call set-up about the approved call.

21. A record medium readable by a digital processing device recording a tangibly embodied program of instructions executable by the digital processing device for performing a call control method for handoff guarantee in a mobile terminal, wherein the program is executed in the following steps of:

(a) judging whether the requested minimum bandwidth of handoff is allocable within the currently reserved bandwidth to allocate the requested minimum bandwidth if allocable, when a received handoff call requests the maximum and minimum bandwidths used in a previous call from a base station of a destination cell of the mobile terminal;

(b) if not allocable, judging whether the available bandwidth exists in the unreserved bandwidth of the current cell to approve the corresponding call if available and regulate the corresponding call to stand by in a handoff queue if unavailable;

judging whether the standby time of the handoff call in the handoff queue exceeds the maximum allowable handoff expiration time to approve the handoff call if

not exceeds and block the handoff call if exceeds;

allocating the minimum one of the requested maximum bandwidth and the added value of the reserved bandwidth and the available bandwidth in the unreserved bandwidth of the cell; and

- 5 requesting a bandwidth reservation from an adjacent cell and requesting a previous base station of the handoff call to cancel the bandwidth reserved to a previously adjacent cell.

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